

2009

M.Sc.

3rd Semester Examination**HUMAN PHYSIOLOGY****PAPER—XV**

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Write the answers to the questions of each Unit in separate books.

UNIT—29

Answer any two questions.

1. (a) Why osmotic pressure of plasma proteins is the key factor for restraining fluid loss from the capillaries? State the role played by albumin in it.
(b) What is capillary filtration co-efficient? (5+2)+3
2. (a) Describe the molecular mechanism of smooth muscle contraction with special reference to electro-mechanical and pharma-comechanical coupling.
(b) State the myogenic mechanism behind the control of peripheral blood flow. 6+4
3. (a) Discuss the role of baro receptor located near the heart in controlling arterial blood pressure.
(b) Why the action of baroreceptor called pressure buffer system? 7+3

(Turn Over)

4. (a) Write briefly on surfactant with a special note on its role in breathing. How it is related to hysteresis loop?
 (b) Comment on infant respiratory distress syndrome.
 (5+2)+3

UNIT—30

Answer any *two* questions from the following :

1. With a suitable diagram show the operation of counter-current multiplier system in the kidney. Write a note on its significance. 7+3
2. (a) Elaborate the ammonium mechanism regarding renal acid-base balance.
 (b) Why salt acid ratio is very high in our body?
 (c) What do you know about 'the compensated and uncompensated acidosis or alkalosis'? 4+2+4
3. (a) Write on the storage and concentration of bile in the gall bladder.
 (b) State the process of emptying of gall bladder.
 (c) Discuss the possible reasons for 'Cholesterol' gall stone. 4+4+2
4. (a) What do you mean by "HMGB 1 protein" and "Immunological homunculus"?
 (b) What is ganglion impar?
 (c) Discuss the route of vagus nerve in human body. 4+2+4